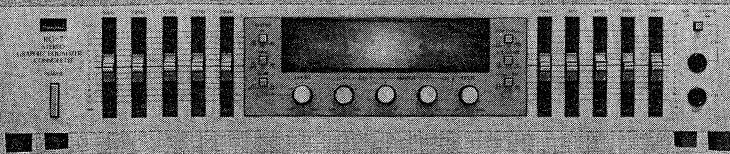


SERVICE MANUAL

STEREO GRAPHIC EQUALIZER
CONSOLETTE

SANSUI RG-7



• SPECIFICATIONS

Input sensitivity and impedance (1kHz)

SOURCE IN, TAPE PLAY

..... 150mV/4.7 kilohms
(Max. input capability: 5V, 20Hz to 20kHz)
MIC 0.8mV/10 kilohms
(Max. input capability: 25mV, 100Hz to 15kHz)
GUITAR 9mV/100 kilohms

Output level (1kHz)

TAPE REC 150mV
PRE AMP OUTPUT 150mV

Total harmonic distortion (1V, 20Hz to 20kHz)

SOURCE IN, TAPE PLAY
..... 0.05%

Frequency response (150mV)

SOURCE IN, TAPE PLAY
..... 20Hz to 20kHz,
+0dB, -0.5dB

Signal to noise ratio (Short-circuit, A-network)

SOURCE IN, TAPE PLAY
..... 70dB

Channel separation (1kHz)

SOURCE IN, TAPE PLAY
..... 60dB

Others

Power voltage 110 ~ 120, 220 ~ 240V
(50/60Hz)

For U.S.A. and Canada

..... 120V (60Hz)

Power consumption 16 watts Rated

Dimensions 430mm (16-15/16") W
87mm (3-7/16") H
228mm (9") D

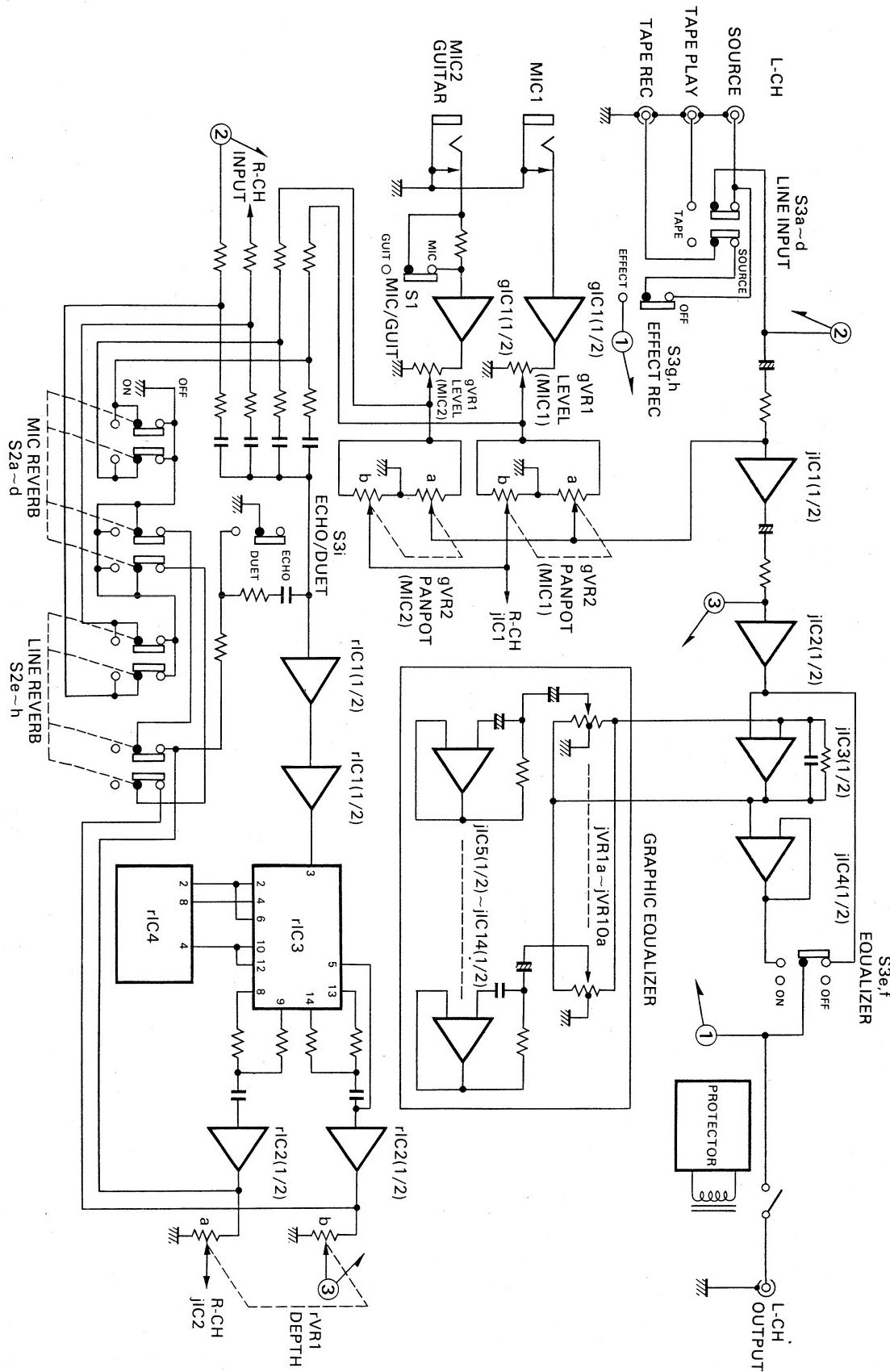
Weight 3.3kg (7.3 lbs.) net
3.9kg (8.6 lbs.) packed

* Design and specifications subject to change
without notice for improvements.

Sansui

SANSUI ELECTRIC CO., LTD.

1. BLOCK DIAGRAM



2. OPERATIONS

Model RG-7 is a sound consolette including 10 band graphic equalizer and newly featured electronic reverberation circuit.

Most of sound consolettes have been used a mechanical reverberation unit which utilized mechanical spring in the reverberation circuit. Model RG-7 realizes more natural reverberation effect by use of Bucket Brigade Device (BBD) which gives effective time delay to an audio signal electronically.

2-1. Operation of BBD IC (MN3010)

The BBD IC (MN3010) consists of dual 512-step BBD, and basically, single 512-step BBD has 512 pairs of which each is combined with a transistor and a capacitor. Fig. 2-1 shows the circuit diagram of single 512-step BBD. On this circuit diagram, each transistor works as a switch to transfer electric charge in former capacitor into next. These transistors are controlled by external dual phased clock pulses ϕ_1 and ϕ_2 , and electric charge corresponding to an audio signal is transferred by turns. After all, similar audio signal with time delay is applied to output terminals. This delay time is determined by both the number of BBD step and the frequency of the clock pulses.

2-2. Operation of BBD Clock Driver IC (MN3101)

To generate the clock pulses ϕ_1 , ϕ_2 and V_{GG} , and to drive the BBD IC, the BBD Clock Driver IC (MN3101) consists of an oscillator, a flip-flop, a wave-form shaper, a V_{GG} generator and a driver as Fig. 2-2.

The clock pulses ϕ_1 and ϕ_2 are reverse phase each other, and both frequencies are determined by externally connected one capacitor and two resistors to OX terminals.

The V_{GG} voltage is regulated to $\frac{14}{15} V_{DD}$ (as GND terminal is in common) in the V_{GG} generator.

2-3. Operation of Reverberation Circuit on RG-7

Each audio signal of MIC, GUITAR and LINE is first amplified by rIC1, and applied to input terminal No. 3 of the BBD IC. Then this signal is delayed in one single 512-step BBD, and outputted from terminals No. 13 and 14. These signals are amplified by rIC2 on left channel after mixed together, and transferred to mix with original left channel audio signal through DEPTH control volume.

In addition, the mixed signal after outputted from the terminals No. 13 and 14, is also applied to input terminal No. 5 of the BBD IC. In the same manner, the signal is delayed again in other one single 512-step BBD, and outputted from terminals No. 8 and 9. These signals are amplified by rIC2 on right channel after mixed together, and transferred to mix with original right channel audio signal through DEPTH control volume.

As the result, comparing to the original input signal, the signal delayed 25ms is outputted to the left channel, and the signal delayed 40ms is outputted to the right channel.

The above expression is the operation when REVERB MODE is set to DUET. When REVERB MODE is set to ECHO, the delayed signal outputted to the right channel is returned to the input of the reverberation circuit again. So that the input signal runs on an echo loop until the signal is decreased to zero. This is the echo effect.

Fig. 2-1

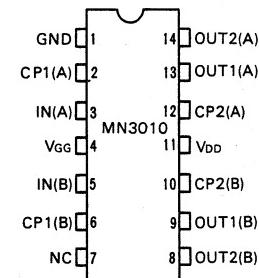
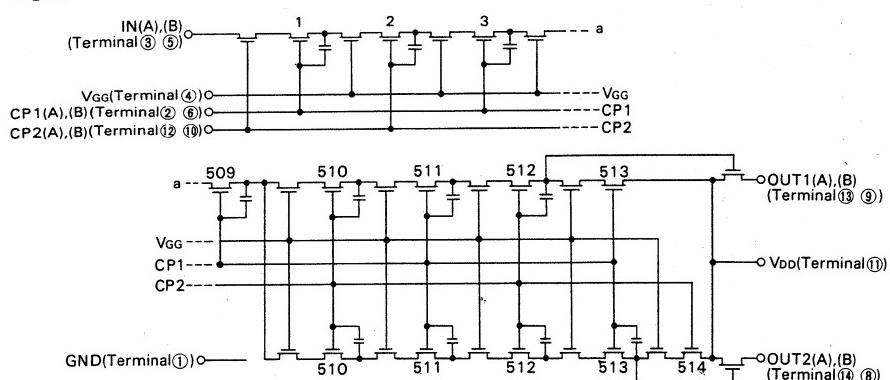
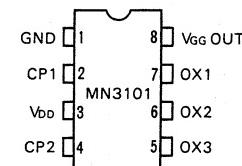
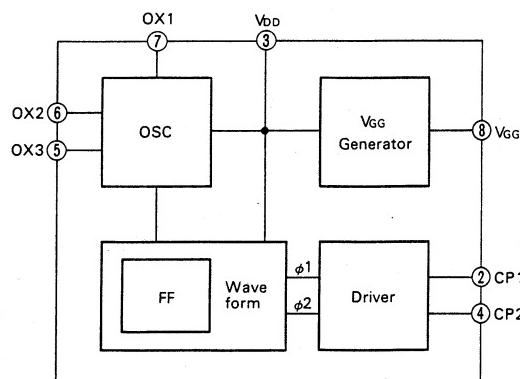


Fig. 2-2

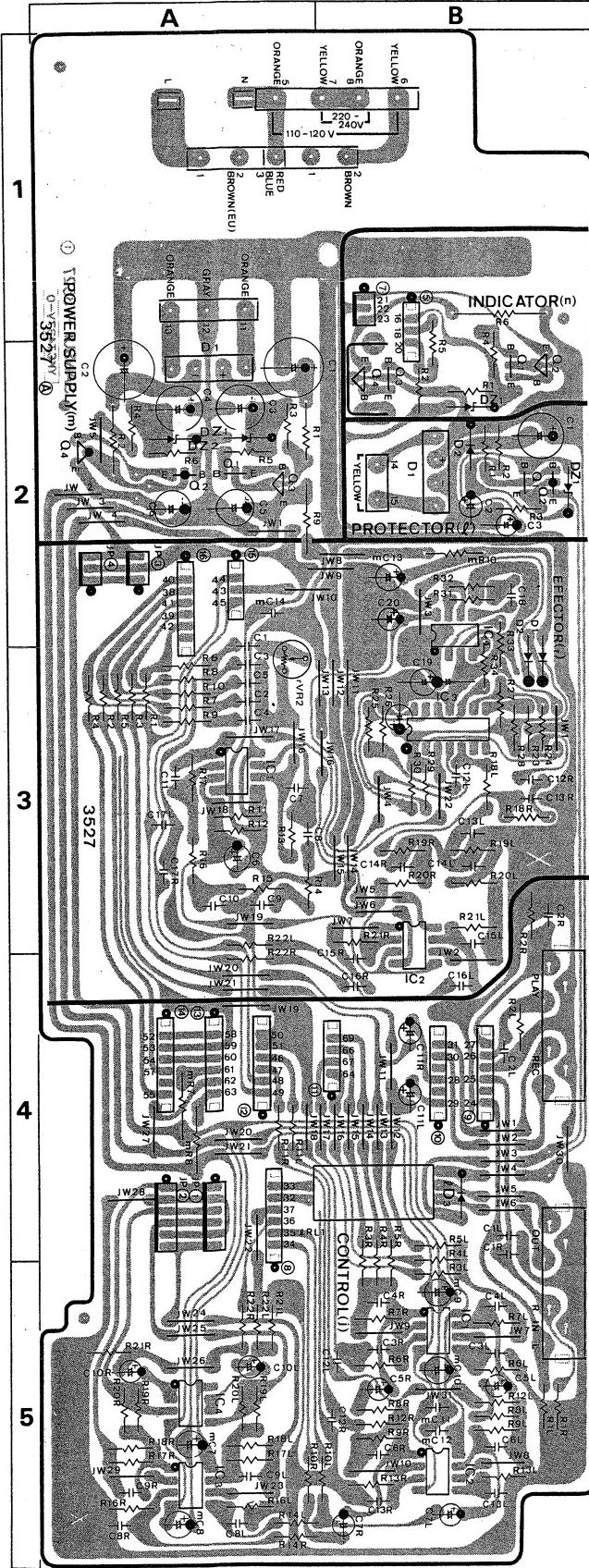


3. PARTS LOCATION & PARTS LIST

3-1. F-3527 Control Amp. Circuit Board (Stock No. 00644301)

• Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors, which was appended previously to Sansui Manual.

Component Side



Parts List

Parts No.	Stock No.	Description
●IC	jIC1 ~ 4	03607700 NJM4558D
●Transistor	IQ1	07194801 2SC1815
	IQ2	07194701 2SA1015
●Diode	ID1	03117000 RB-152
	ID2	03117600 1S2473D
	ID3	03103400 10D-1
●Zener Diode	IDZ1	03178200 RD9.1E-B
	IRL1	11504700 Relay (Protector)
●Transistor	mQ1	07194801 3SC1815
	mQ2	07194701 2SA1015
	mQ3	03086101 2SD357
	mQ4	03083901 2SD313AL
	mQ4	03034401 2SB527
	mQ4	03032301 2SB507V11AL
●Diode	mD1	03117000 RB-152
●Zener Diode	mDZ1, 2	03179400 RD16E-B
●Transistor	nQ1	07194801 2SC1815
	nQ2	03083901 2SD313AL
	nQ3	07194801 2SC1815
	nQ4	03083901 2SD313AL
●Zener Diode	nDZ1	03179000 RD13E-B
	nR6	00186800 150Ω 2W N.I.R.
●IC	rIC1, 2	03607700 NJM4558D
	rIC3	46080200 MN3010
	rIC4	46080300 MN3101
●Diode	rD1, 2	03117600 1S2473D
●Capacitor	rC1 ~ 5	07216200 22000pF 25V C.C.
	rC8, 12, 16	07216800 68000pF 25V C.C.
	rC9	07215300 3900pF 25V C.C.
	rC13	07215400 4700pF 25V C.C.
	rC14	07214800 1500pF 25V C.C.
	rC15	07214900 1800pF 25V C.C.
	rC17	07215900 12000pF 25V C.C.
	rVR2	10351900 Semi Variable Resistor 100kΩ B (Echo Adj.)

A

B

C

D

E

F

G

H

1

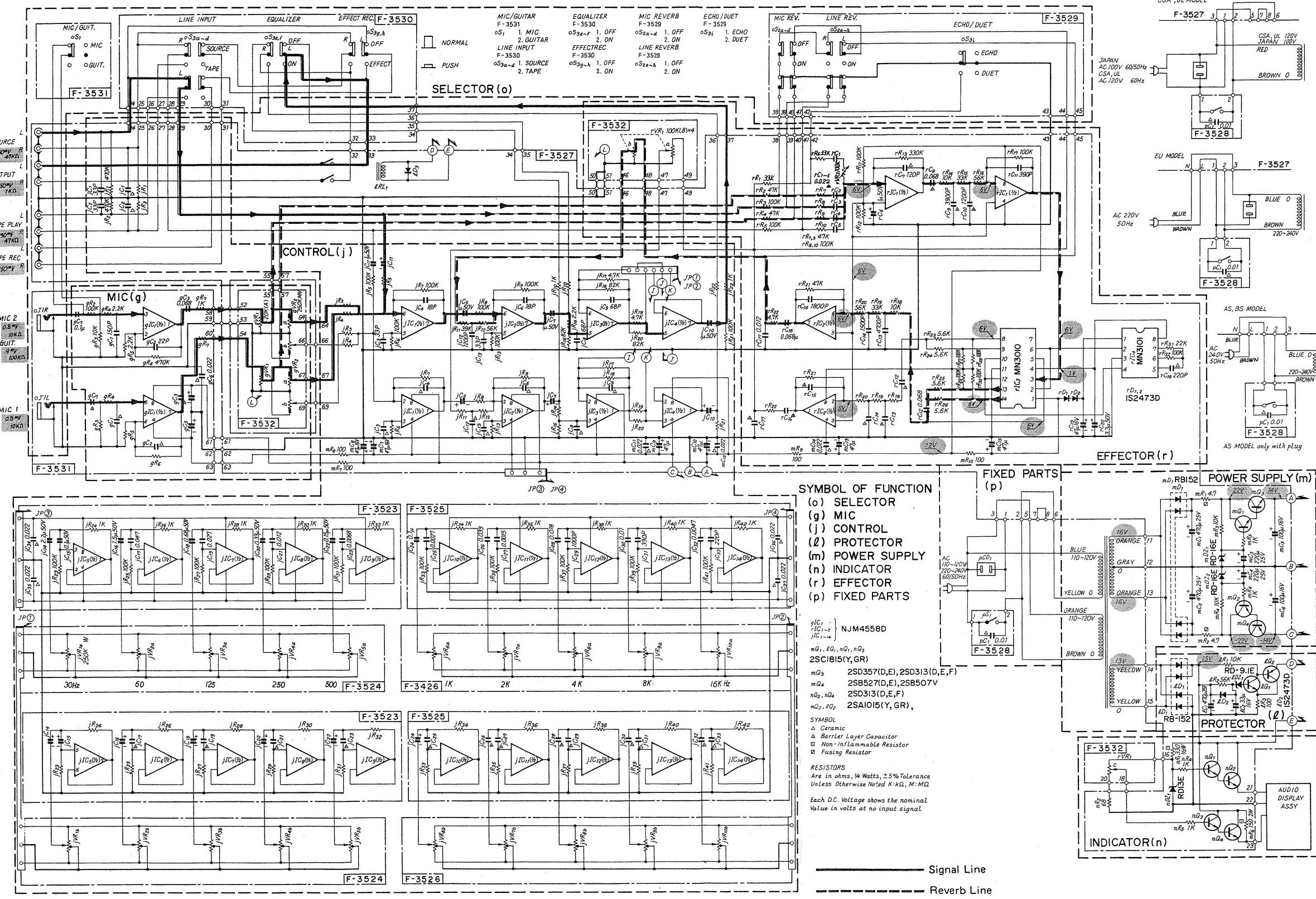
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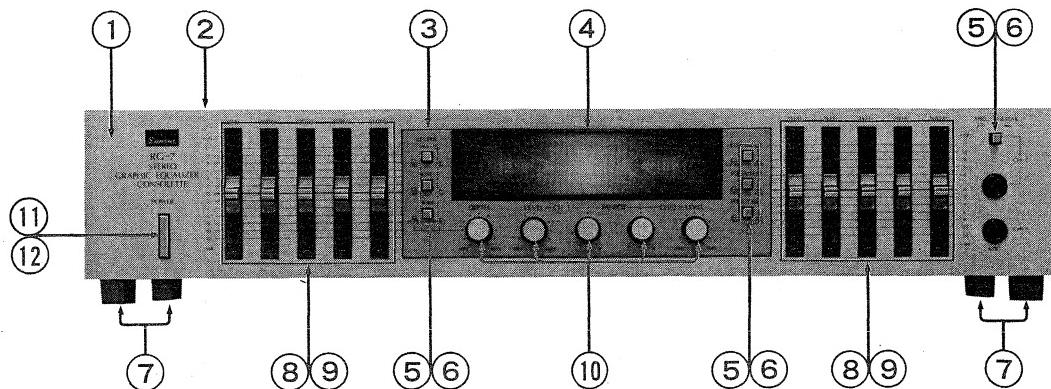
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5. SCHEMATIC DIAGRAM

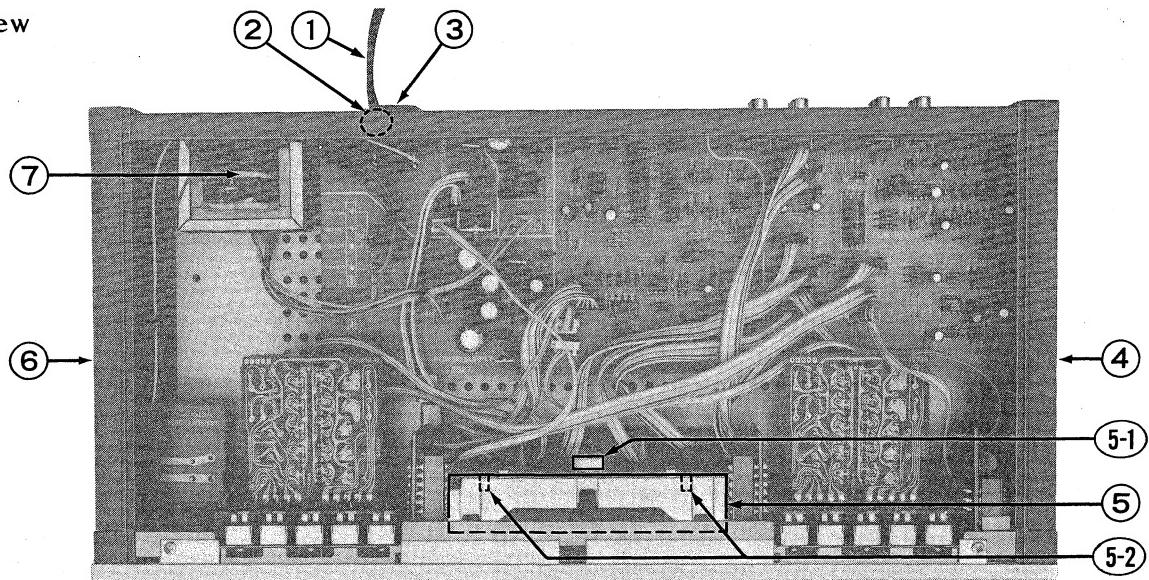


6. OTHER PARTS

6-1. Front View



6-2. Top View



Parts List <Front View>

Parts No.	Stock No.	Description
Common Parts		
2	07601400	Bonnet
4	07764300	Indicator Window (Reverb)
7	07601200	Leg
<Silver Model>		
1	07767500	Front Panel Ass'y
3	07765200	Sub Panel Ass'y
5	07580100	Push Knob (Input & Reverb Switch)
6	07580900	Push Knob Guide (Input & Reverb Switch)
8	07777700	Knob (Slide Volume)
9	07772800	Masking Cover (Slide Volume)
10	07764500	Knob (Mic & Reverb Volume)
11	07579800	Push Knob (Power)
12	07581500	Push Knob Guide (Power)
<Black Model>		
1	07767600	Front Panel Ass'y
3	07765300	Sub Panel Ass'y
5	07580200	Push Knob (Input & Reverb Switch)
6	07581400	Push Knob Guide (Input & Reverb Switch)

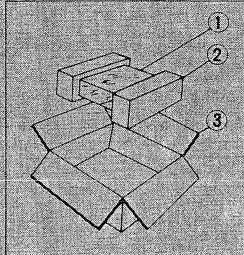
Parts No.	Stock No.	Description
8	07767000	Knob (Slide Volume)
9	07764200	Masking Cover (Slide Volume)
10	07764600	Knob (Mic & Reverb Volume)
11	07580000	Push Knob (Power)
12	07581400	Push Knob Guide (Power)

Parts List <Top View>

Parts No.	Stock No.	Description
1	38004700	Power Supply Cord
2	39106000	Strain Relief
3	07189600	AC Outlet
4	07601810	Side Panel (Right)
5	07767800	Indicator Box Ass'y (Reverb)
5-1	46133000	Main Indicator Lamp with Socket
5-2	46132900	Sub Indicator Lamp
6	07601710	Side Panel (Left)
7	15004201	Power Transformer

7. PACKING LIST

Parts No.	Stock No.	Description
1	07599500	Vinyl Bag
2	07661900	Styrofoam Packing
3	07764100	Carton Case (Silver Model)
	07764000	Carton Case (Black Model)



8. ACCESSORY LIST

Stock No.	Description
46093600	Operating Instruction
38103300	P.I.P Cord

Sansui

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